CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

SECRET
SECURITY INFORMATION

COUNTRY	USSR (Kalinin Oblast)	REPORT NO.	25X1
SUBJECT	Description of Institute Building and Test Stand Area of NII 88 on Gorodomlya Island	DATE DISTR.	3 July 1953
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THE APPRAISAL OF CONTENT IS TENTATIVE.
(FOR KEY SEE REVERSE)

SOURCE: 25X1

History of Institute Building

1. Prior to World War II, the institute building was used for bacteriological research. Experiments were made on animals and possibly human beings. The fact that human beings were imprisoned here is to be concluded from the existence of a complex of underground cells. The cells are barred, with troughs along the walls evidently constructed for use as urinals. The light enters into this complex by a shaft leading into the surface of the ground. Some Germans who were in this underground compartment claimed to have seen numbers scratched into the wall. During the periods that the Germans were on the island, this underground complex was not used. The Soviets were either not able or not willing to give an explanation of its past use.

2. Although the institute on the island was not used during

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World War II, there is a possibility that some of the Germans were confined in Ostashkov during this time. The first group of Germans were brought to the island in 1946 and worked and lived under very restricted conditions. The institute building itself was in very bad condition and a great deal of building conversion was carried on after 1946. The building of living quarters and the first repair of the institute building was carried out by Soviet military prisoners. These prisoners were later removed from the island and construction work was carried on by a professional Soviet group called Tsekh 82. This construction group was under the jurisdiction and management of the institute but was also responsible to an office in Moscow. They were a self-maintained unit having their own workshops, painters, bricklayers, and a crew for maintenance. [redacted] found them professionally quite proficient. A large portion of the reconstruction work was carried on in 1949 and 1950, when parts of the original institute complex were torn down and new buildings put up. These parts (included in the so-called second object) /see diagram, page 12/ consisted of the following rooms: in the basement, rooms 1-7, 11-18, 23-25; on the first floor, rooms 2-3, 10, 16-32 /see diagram, page 13/; on the second floor, room 1 /see diagram, page 14/. In 1951, a completely new portion of the institute was built, consisting of a one-story building; on the first floor, rooms 1, 7-9 /see diagram, page 13/.

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25X1

3. [redacted]

The Basement Floor

4. An underground tunnel leads from the east wing to the west wing of the institute building on the level of the basement floor /see diagram, page 12/. The corridor had been used for commuting from one wing to the other and had been electrically lighted. [redacted] the corridor was badly in need of repair and was no longer used as a connecting tunnel. The two entrances were used as storage space for all kinds of miscellaneous materials, and it was impossible to use it as a passageway. The individual rooms have the following significance: 1-6 belonged to Sector 9 of the plant (workshops). The type of work done in these rooms was galvanization of nickel, chromium, and other protective coatings. [redacted] were in charge of this department. Of these rooms:

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Room 1 was the ventilator room providing fresh air for the other rooms of the department, and having an exhaust to absorb the used air.

Rooms 2, 3 and 4 were the rooms in which the galvanic baths were kept and where the actual coating was done.

25X1A [redacted]

Room 5 was the office [redacted] 25X1

Room 6 tempering furnace , which was operated by the material testing expert of the German group, [redacted] 25X1

Rooms 7 10, 11-15- "Second Object" wind tunnel.

Room 7 Two compressors. Although only one compressor was installed in the beginning, the foundations and the water supply indicated that two compressors were planned all along. The size and the performance of the compressors is unknown, but I am fairly sure that these compressors were moved from the "first object" (test stand) to the wind tunnel.

Room 10 - A small room used only as a corridor. Small pressure gauges and manometers, possibly high pressure valves, are installed there, but I have no precise information on these installations.

Room 11 Foundation of the wind tunnel and high pressure tube (?). It contains massive flanges and high pressure manometer. The foundation is about 2 1/2 meters wide, 3 meters long, and 1 1/2 meters above the level of the floor. (These measurements are given from a very vague memory.) Above the tube, which probably contained the nozzle, is the wind tunnel chamber in the first floor of the building.

Rooms 12, 13, and 14 - Workshops of the precision mechanics for the manufacture of models. The work benches and machine tools were placed along the windows of the room. The number of machine tools is not known. Only German personnel were working in this department. The engineer in charge of this project was [redacted] the precision mechanic, [redacted] and 25X1 25X1 25X1 the head technician, [redacted] was in charge of maintenance and repairs.

Rooms 8, 9 - Empty rooms, which did not seem to be in use.

Room 15 - Washroom and exit for the wind tunnel personnel.

Room 16 Photographic laboratory, operated by [redacted] (who had previously, until spring 1951, worked on test stands). 25X1 25X1 [redacted] was in charge of taking pictures for the identification papers; he also was given assignments to take technical pictures or pictures of installations and buildings to be sent to Moscow for propaganda and advertisement. He developed and evaluated his own films. I do not know the equipment he used, nor the method by which he operated in his laboratory.

Room 17 - Storage room for telephone and low current installations, in which only Soviets were employed. The room contained a small bookshop.

Room 18 - Main switchboard of the telephone operator. The switchboard was operated by one girl. The telephones for the Germans and the Soviets were on different circuits. The Germans could only call inside the building, while the Soviets could make calls to the outside.

Room 19 - Unknown

Rooms 20-22- Part of the telephone and low current department.

Room 20 Occupied by the head of the department, name unknown.

Rooms 21, 22 - Rooms in which the cables, switches, and batteries are installed.

Rooms 23-25 - Blueprinting installation. No Germans were employed in this establishment.

Room 23 - Developing room. I believe, from the smell, that they used ammonium chloride as a sensitizer.

Room 24 - Exposing room.

Room 25- Cutting room.

Rooms 26-28, 30-32- Chemical laboratories (Section 7).

Rooms 26, 27- Small test stand for the use of [redacted] 25X1
25X1 [redacted] I do not know if the test stand was used for the development of a small-size combustion chamber (ofen) or just for experiments with fuels.

Room 28 - Laboratory for testing fuels.

Rooms 30, 31 - Chemical laboratories testing the "Gasentnahme" combustion chambers. I do not know anything about the nature of these tests.

Room 32 - Office of Sector Chief [redacted] 25X1

Room 29 - Belongs to the static sector (Sector 10); was designed to be a laboratory for testing tensile strength and was to be
25X1 operated by [redacted] but until the time of departure the laboratory was not installed, and [redacted] was not able 25X1 to take over his duties in these rooms.

Room 33 - Testing of Rudder machines (Sector 4, Guidance). [redacted] 25X1
25X1 [redacted] was in charge of this laboratory until the fall 1950 when he was transferred to Moscow for a contract of another four years. He was succeeded in his work by [redacted] 25X1

Rooms 34, 35- Aerodynamics (Sector 2). Water container, about 7 meters long, 3 meters wide, made of steel with a glass bottom and a strong light lighting the container from the bottom. Water is pumped into the container. The models of guided missiles are tested in the water as to current and eddies in the water.

Room 34 - Pump and office room.

[redacted] 25X1

Room 36 - Development of analogue computers (Sector 4, Guidance). In this laboratory, the mechanical part of the analogue computers was developed. Various models were tried with 2,3, and 4 axles. Several analogue computers were finished right in the institute. The experts working on the project were Ings.
25X1 [redacted]

Rooms 37, 38- Spraying laboratory (Sector 3, Propulsion).

Room 37 - Laboratory.

[redacted] 25X1

Room 39 - Small workshop for the maintenance of the institute building and the institute grounds. The workshop was at the disposal of the head of maintenance.

Room 40- Storage room for Sector 7 (chemical laboratory).

Rooms 41, 42 - Storage rooms for Sector 4 (Guidance).

Rooms 43, 44 - Small building partly below the surface of the yard. It belonged to Sector 11. In 1951, it was made into a varnishing shop using the spraying method to apply the varnish.

First Floor

5. The first floor included the following rooms: /See diagrams, pages 13, 14, and 15/

Rooms 1 - 5 were Sector 9, the so-called German workshop. In the beginning, all the technical work in this shop was done by German personnel. However, in the spring 1951, Soviet personnel were transferred to the workshop to learn the mechanical skills of operating machine tools and fine mechanical work from the Germans. Many of the Soviets assigned to this shop had no previous workshop experience, and were not qualified for the job.

Room 1- Large hall, forge, and assembly hall. On the west side of the hall, there was an entrance gate with folding doors, about 4 meters high to permit trucks to enter the hall. Rails for travelling cranes along the wing part of the ceiling (both sides of the monitor roof) were not installed at the time when the German group left. It was planned to have railway tracks lead into the hall through Rooms 1, 2, and 3, but the tracks had not been laid. The shop was not finished until 1951. Along the windows of the hall are workbenches and machine tools. The largest installation is the electrical welding shop and autogenous welding shop on the north side of the hall. In the corner is a large tempering furnace (sheets of metal 3 meters x 4 meters x 4 meters[1]).

Room 2- This was used temporarily by the precision mechanics who had been dislodged from Rooms 17, 18, and 21.

Room 3- Lathe shop. Initially, it was planned to have rails for a travelling crane along the roof of the hall, but the plan was apparently abolished. The workbenches and machine tools are mostly along the window of the hall. The total number of lathes in the shop is about 10- 12, of which 4-5 are of a large type (diameter unknown).

Room 6- Central storage for tools. This storage room not only served the German shop, but also the Soviet shop.

Room 8- Room contained special machines for the manufacture of measuring instruments. (Precision machine tools.)

Room 9 - Washroom and toilets.

Room 10- Office.

Room 11- Office of the Soviet head of the workshop, 25X1

Room 12- Small storage room.

Room 13- Material testing laboratory (acid bottles, etc.) operated by 25X1

Room 14, 15- Office of technologists.

Room 16- Office of the German head of the workshop, 25X1

Room 17- 18- Formerly the room where the precision mechanics were housed until they were transferred temporarily to Room 2. Lathes, workbenches, and boring machines were installed in these rooms. The storage area for this department was in Room 21.

Rooms 17, 18, and 21- Since the winter of 1952, the part of Sector 4 (Guidance) that had been working in Rooms 54-56 and Room 59, was transferred from these rooms, because they were taken over by the Soviets for a secret project, to Rooms 17, 18, and 21. As far as I know, they had not taken up full operations in these rooms by the time of the Germans' departure. It is rumored that the German specialists who remained on the island after my departure are all housed in these rooms, which are easily isolated from the rest of the institute because they had their own entrance.

Room 19- Checking room for clothing.

Room 20- Purpose unknown.

Room 21- Storage of high-pressure containers and high-pressure battery for the wind tunnel.

Rooms 22- 18- Sector 2, aerodynamics, wind tunnel.

Room 23- Wind tunnel. In the center of the room was the chamber. A steel door with sight glasses led into the chamber. Next to the wind tunnel was a four-combination scale at which four combinents could be measured at the same time. This scale 25X1 had been developed of Sector 4 (Guidance).

(See diagram, page 13.)

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installation. I believe that it was not connected with it at first when it still had its own compressor, but later this compressor was transferred to the wind tunnel, and the nitrogen installation was serviced by the compressors used in the oxygen installation.

First Object (Test Stand Area)

9. The first object or test stand area was started in the beginning of 1949, or perhaps the last months of 1948. /See diagrams, pages 17 and 24 which are drawings of first object./ It was surrounded by a wooden fence about two meters high. In the evening, roving guards with dogs were guarding the compound. To enter the areas of the first object, a special pass was required which was given out to very few persons. The area could be entered only through the guard house. There was another outlet opposite the O_2 gasification plant, but nobody was permitted to enter the compound by this outlet. When the bottles were taken out of the area, the loading crew was only permitted as far as the fence, where they had to wait until the bottles were handed over to them. Furthermore, the guard at the main entrance had to be informed of the impending loading operation.

10. [redacted] 25X1

11. The test stand was finished about the end of 1949. It was immediately put into operation. The construction of the test stand and its accessories suffered from lack of proper material, particularly special metals and tubing. Aluminum tubes, copper tubes, high pressure valves, high pressure flanges, etc. were in short supply and in some cases simply could not be procured. The German construction crew had to use old equipment and scrap metals to complete the assignment. 25X1 [redacted] olved the problem of constructing the O_2 containers of steel- I do not know if it was an ordinary steel or a special steel- i.e., the outer casing was made of steel, while the inner casing was either made of aluminum or copper. As far as I know, [redacted] 25X1 took the metal for these containers from scrap materials.

12. Tests on the test stand were made almost constantly. One could be aware of tests going on through the noise of the exhaust, and by the vapors which were particularly visible when the rockets were fueled with kerosene. The tests were generally made in series, and were sometimes followed by intermissions of 8 - 14 days. While a series of tests was being made, tests might occur several times a day or even at night. I do not know if more than one type of rocket was tested on this stand. I never heard of any new types.

13. During all the testing, there was only one mishap at one of the first tests made on the stand. A gas-operated cooling tube, for the cooling of the exhaust flame, exploded 25X1 and almost killed [redacted] Otherwise, there were no accidents in the operation of the test stand. /See diagram, page 15./

25X1A

14. As far as I know, other test stands were planned in that area, but I did not see any indication that the plans were to be carried out. In general, it may be said, that the building of the first object did not meet the requirements and plans of the German specialists. It may be that the Soviets did not trust the plans of the Germans, and therefore did not want to extend themselves too far in building the installations proposed by the Germans.

15. In the northeast corner of the compound, opposite the large assembly hall, a spraying laboratory was planned as a building. It was ready on paper, just as a building, not as far as installations were concerned, and an area for the construction of the building was already cleared of trees and was leveled off, about the end of 1950. However, the Germans were told that the ministry had disapproved the building, and work on the project was discontinued.

Page 12 ——— : Institute Building NII 88, Cellar Floor Plan
Page 13 ——— : Institute Building NII 88, Ground Floor- Main Entrance to Office Rooms and Laboratory
Page 14 ——— : Institute Building NII 88, Main Floor Plan
Page 15 ——— : Exhaust From Combustion Chamber of A-4, Used in Gas Withdrawal Test
Page 16 ——— : Institute Building NII 88, South, North, West, and East Views
Page 17 ——— : First Object, Test Stand, Floor Plans - First Floor and Basement
Page 18 ——— : First Object, Test Stand, Views
Page 19 ——— : First Object, Miscellaneous Floor Plans
Page 20 ——— : First Object, O_2 Installation
Page 21 ——— : First Object, Assembly Hall- Testing of Fittings and Measuring Equipment
Page 22 ——— : First Object, Site Layout
Page 23 ——— : Sketch of Combustion Chamber Support on Test Stand
Page 24 ——— : Schematic of Test Stand

25X1A

1. [redacted] Comment. Obviously sheet metal could not have such dimensions. Probably the thickness should have been three or four millimeters rather than meters.

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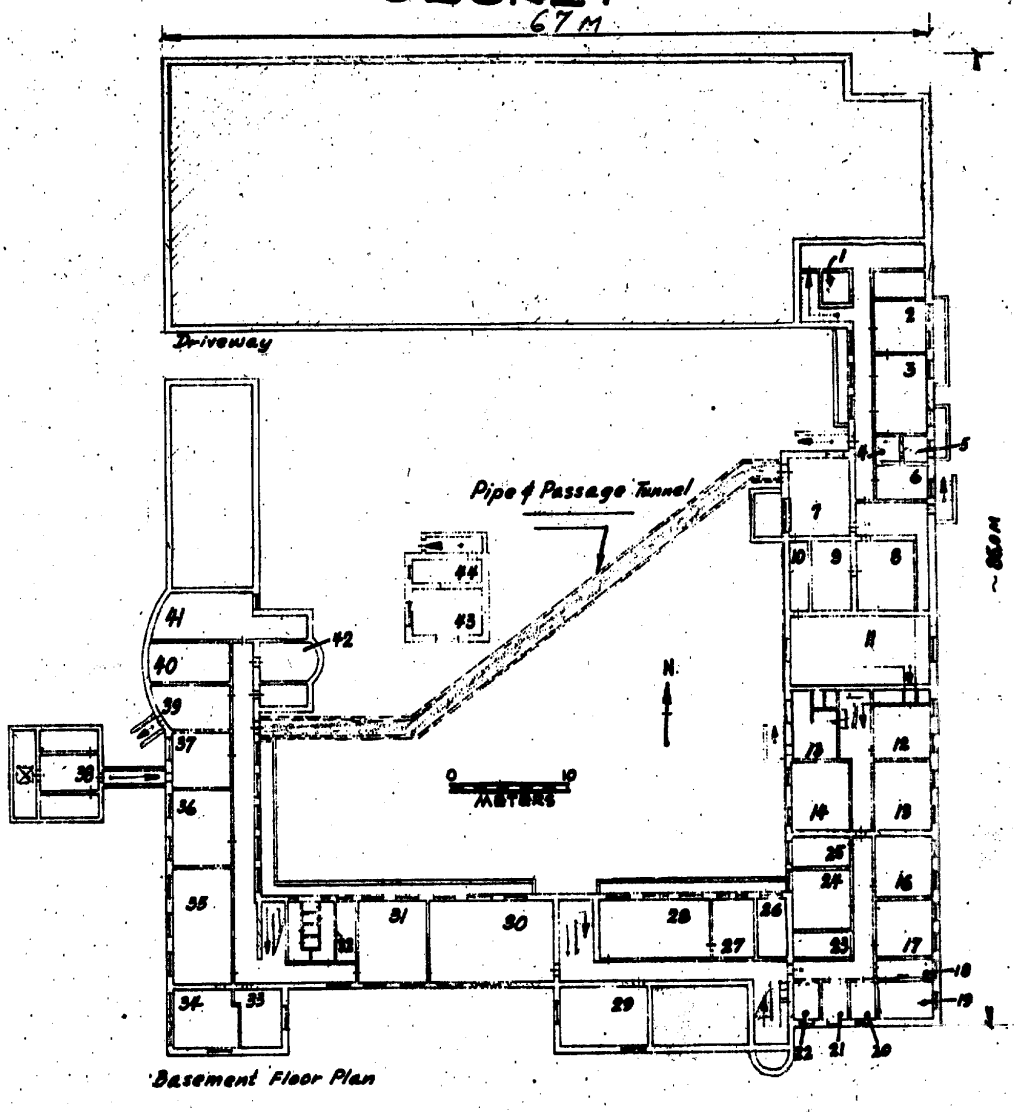

INSTITUTE BUILDING

N.I.I 88

GORODOMLYA ISLAND - USSR

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25X1A

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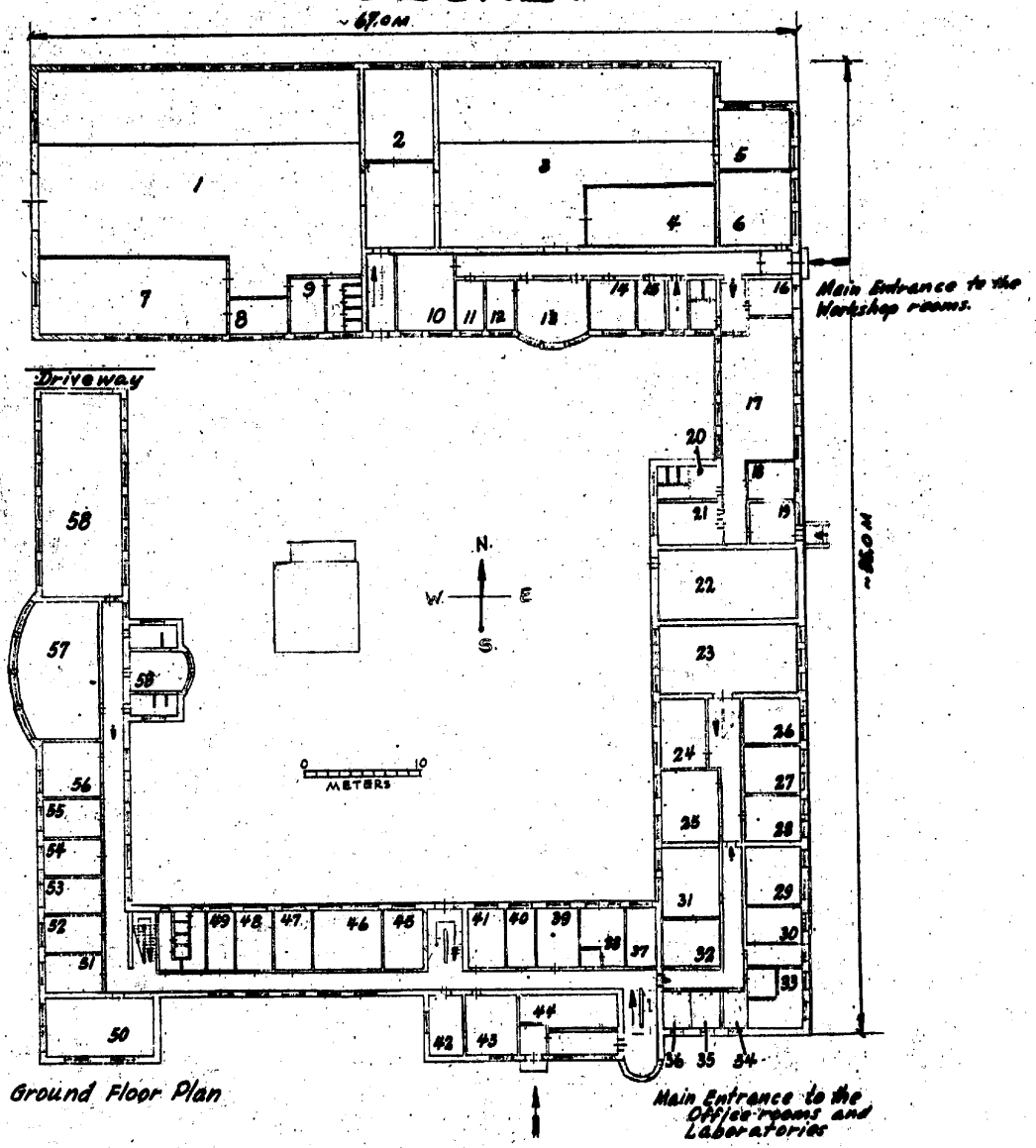

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INSTITUTE BUILDING

N.I.I 88

GORODOMLYA ISLAND - USSR

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25X1A

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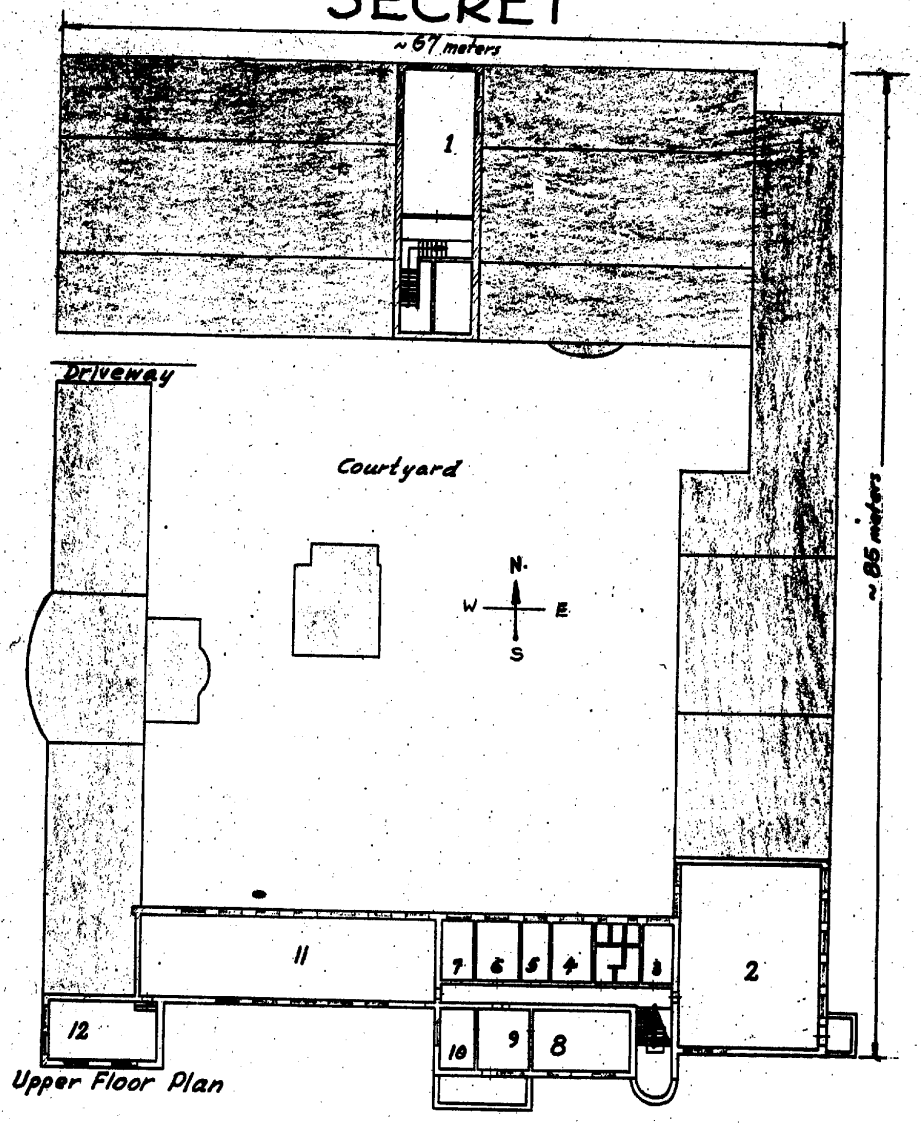

Upper Floor Plan

INSTITUTE BUILDING

N.I.I 88

GORODOMLYA ISLAND - USSR

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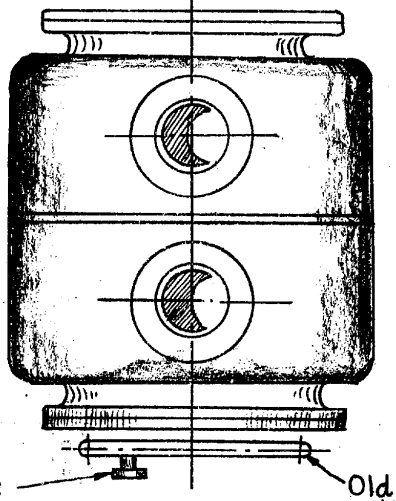
25X1A

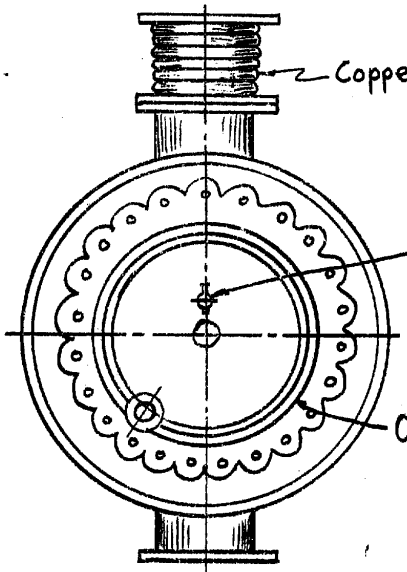
View from above



Old connecting device for gas

Old gas pipe protected with asbestos

Front view



Remarks: With the project of drawing gas from the combustion chamber the old "A-4" pump set was used. As far is known, no basic changes were undertaken externally, thus, offering good probability to assume that the old gas connection was also used for the new project.

Sketch of the A-4 Turbine Seat

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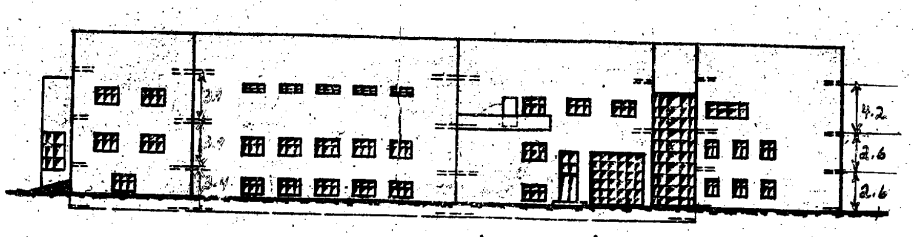
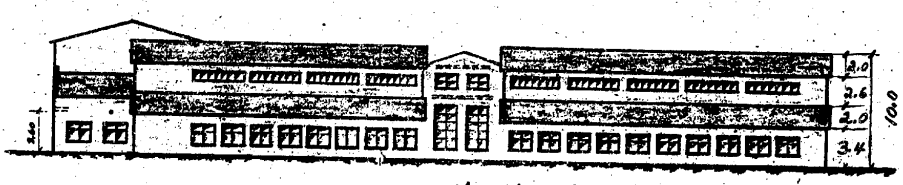
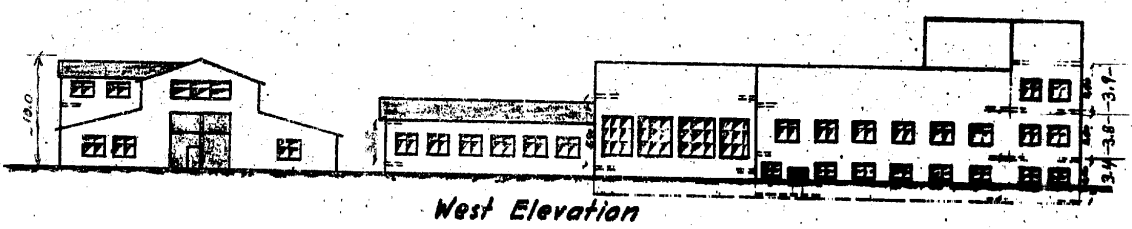


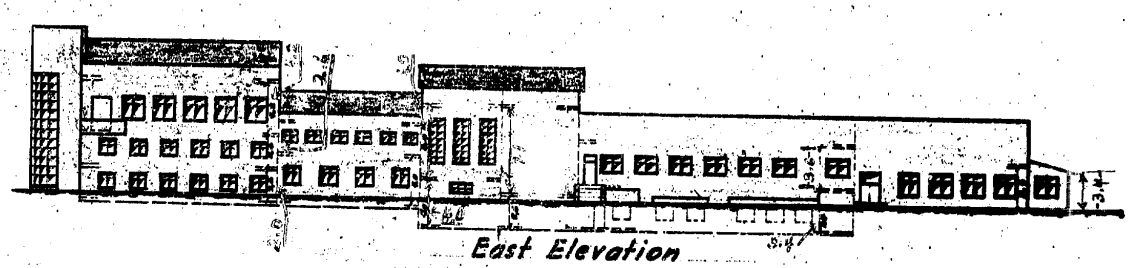
South Elevation



North Elevation



West Elevation



East Elevation

scale 1:200.

INSTITUTE BUILDING

N.I.I 88

GORODOMLYA ISLAND - USSR

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25X1A

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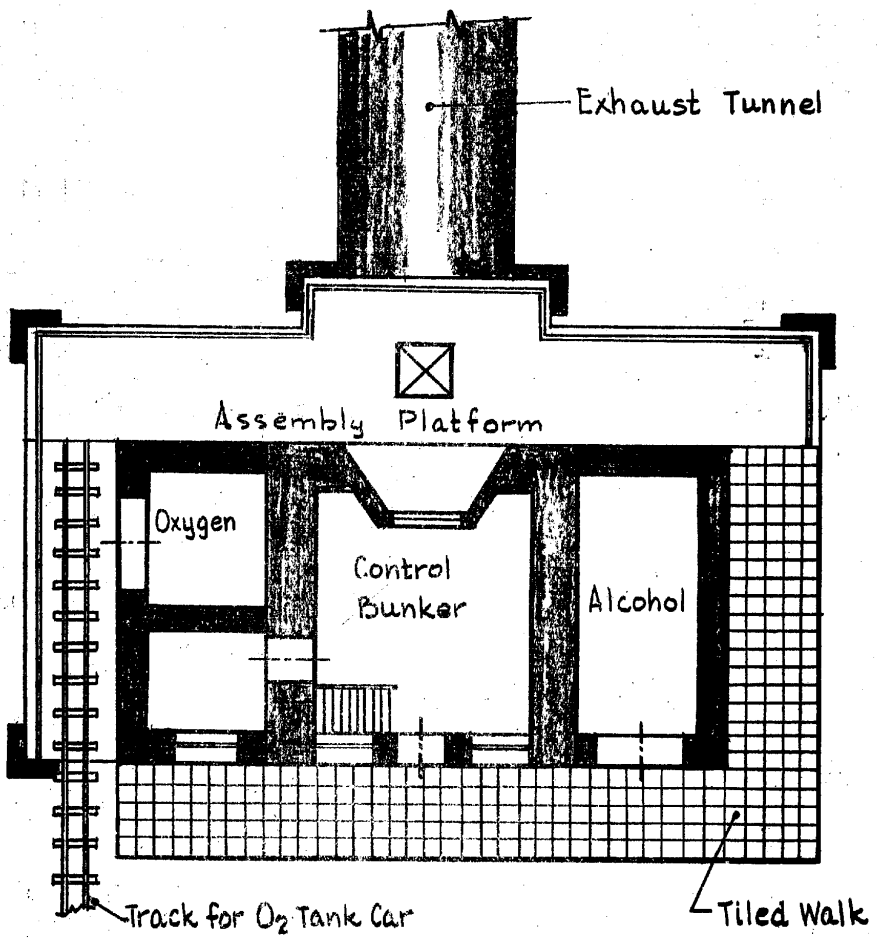
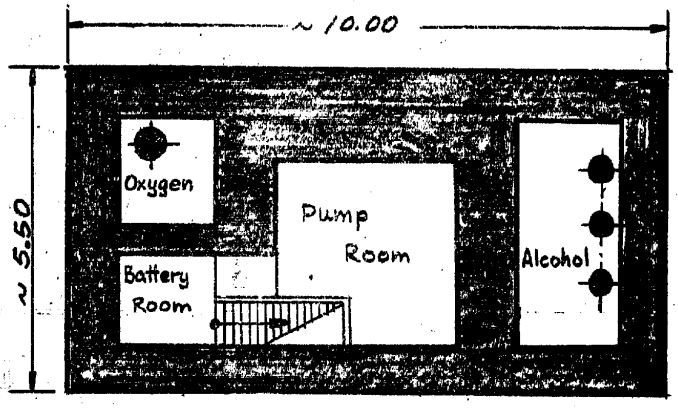


FIRST FLOOR



BASEMENT

Scale : 1 : 100

FLOOR PLANS - TEST STAND - FIRST OBJECT

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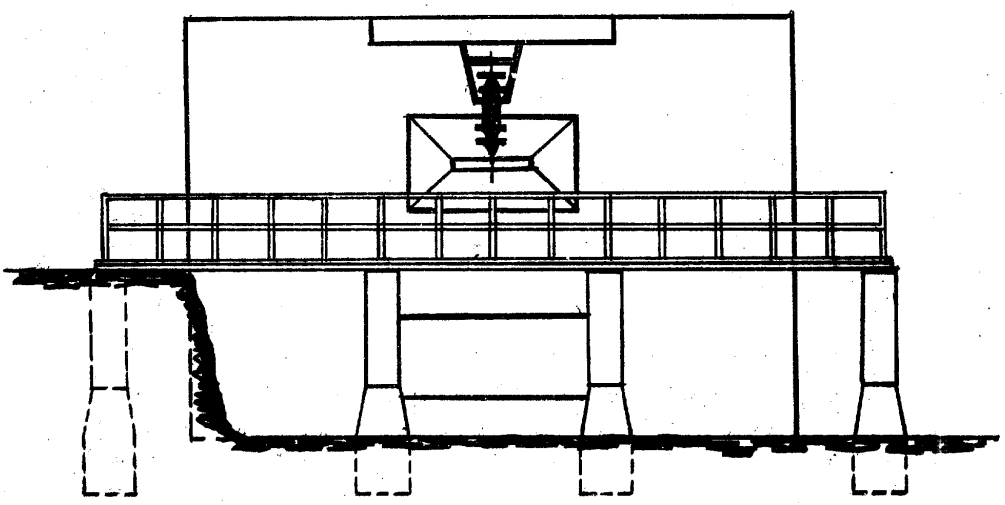
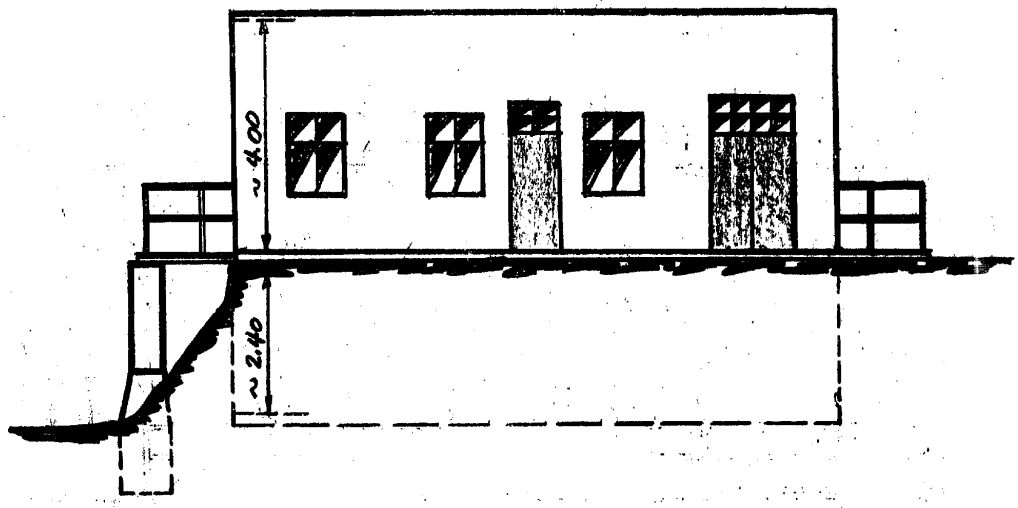


REAR ELEVATION



FRONT ELEVATION

ELEVATIONS
TEST STAND - FIRST OBJECT

Scale: 1=100

GORODOMLYA ISLAND - USSR

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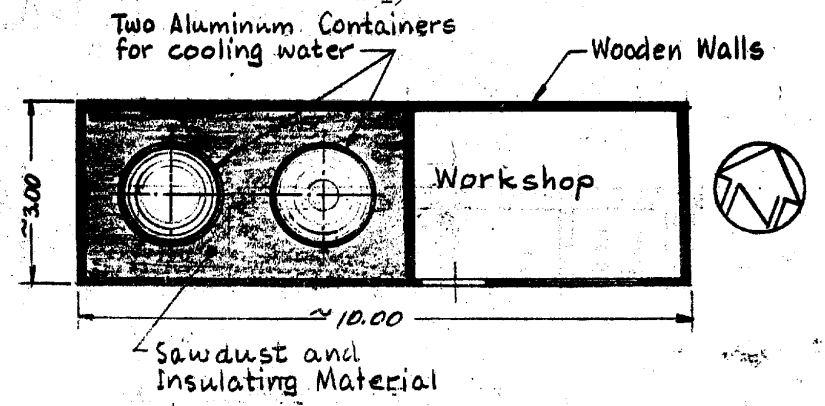
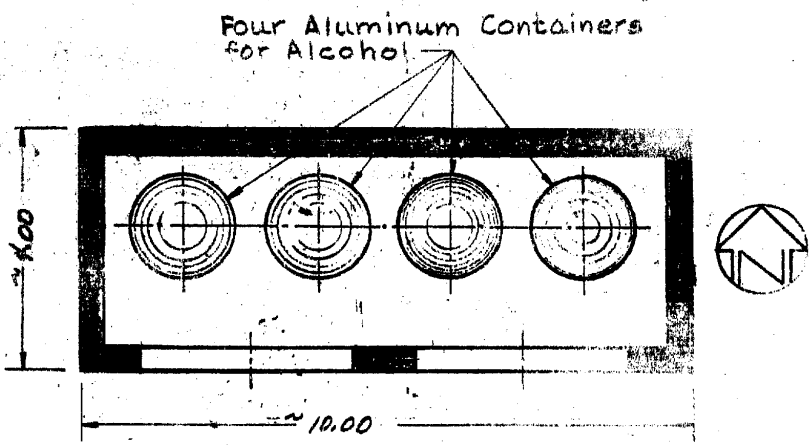
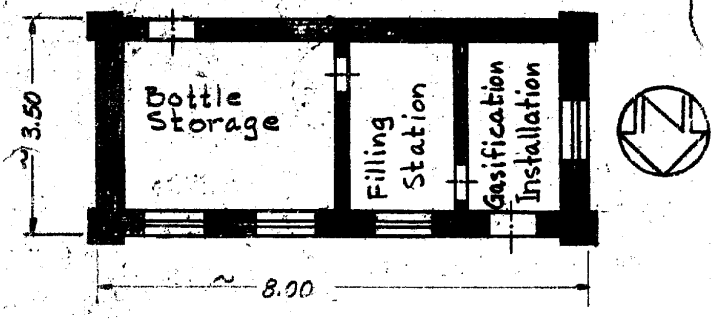


TANK for COOLING WATER & WORKSHOP



ALCOHOL STORAGE - 1800 Ltrs.



OXYGEN GASIFICATION STATION

MISCELLANEOUS FLOOR PLANS

FIRST OBJECT

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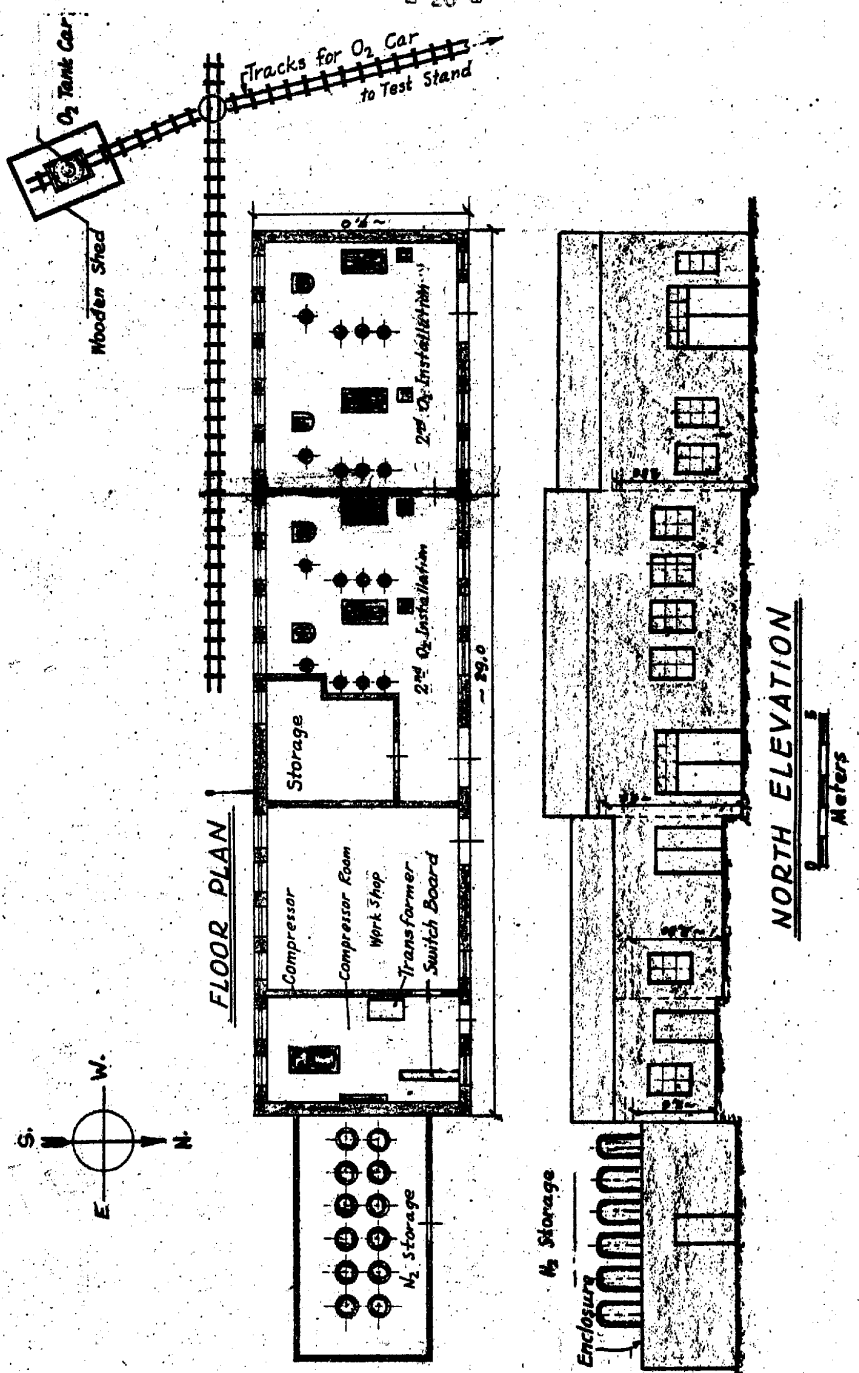

OXYGEN INSTALLATION
FIRST OBJECT
GORODOMLYA ISLAND - USSR

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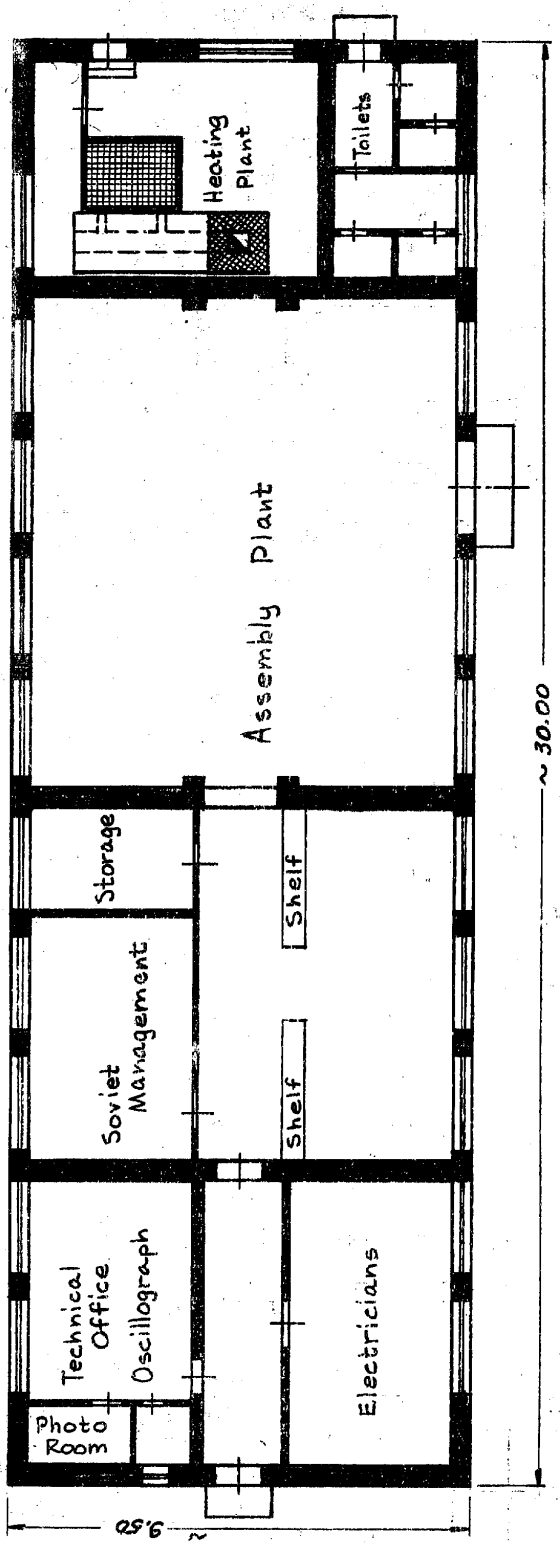
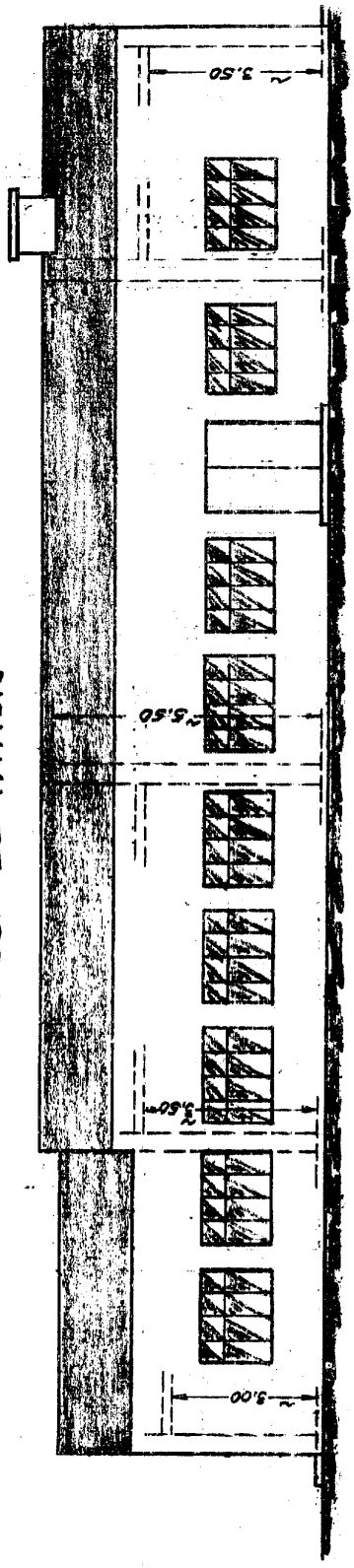


PLAN VIEW



WEST ELEVATION

ASSEMBLY HALL - TESTING of FITTINGS & MEASURING EQUIPMENT

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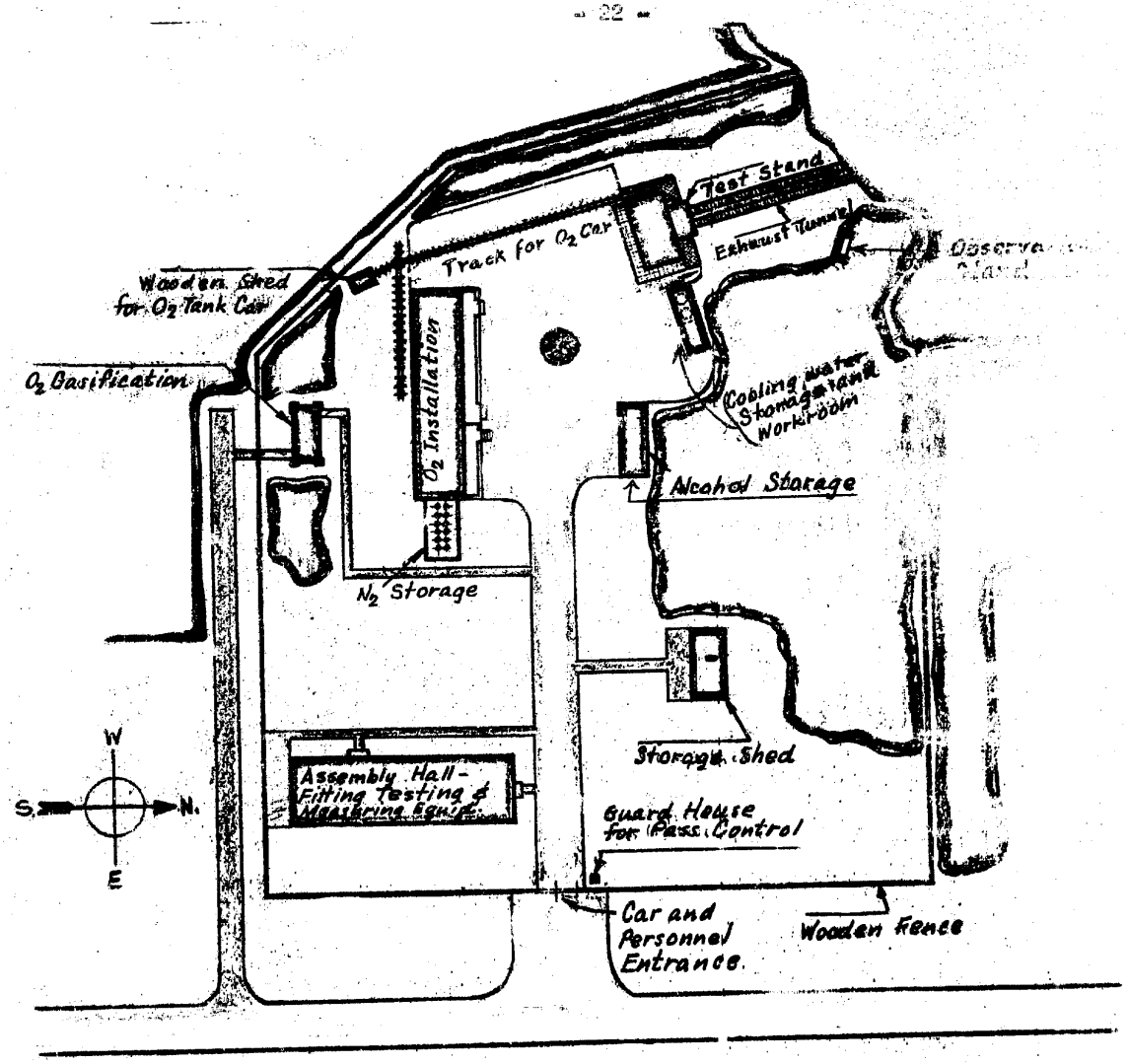

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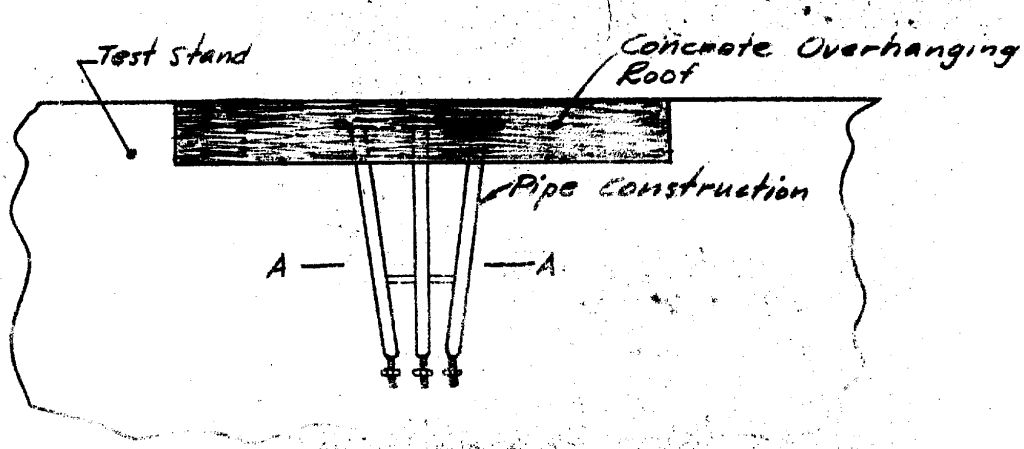
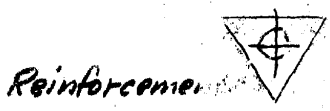
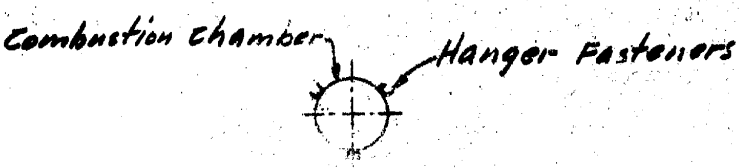


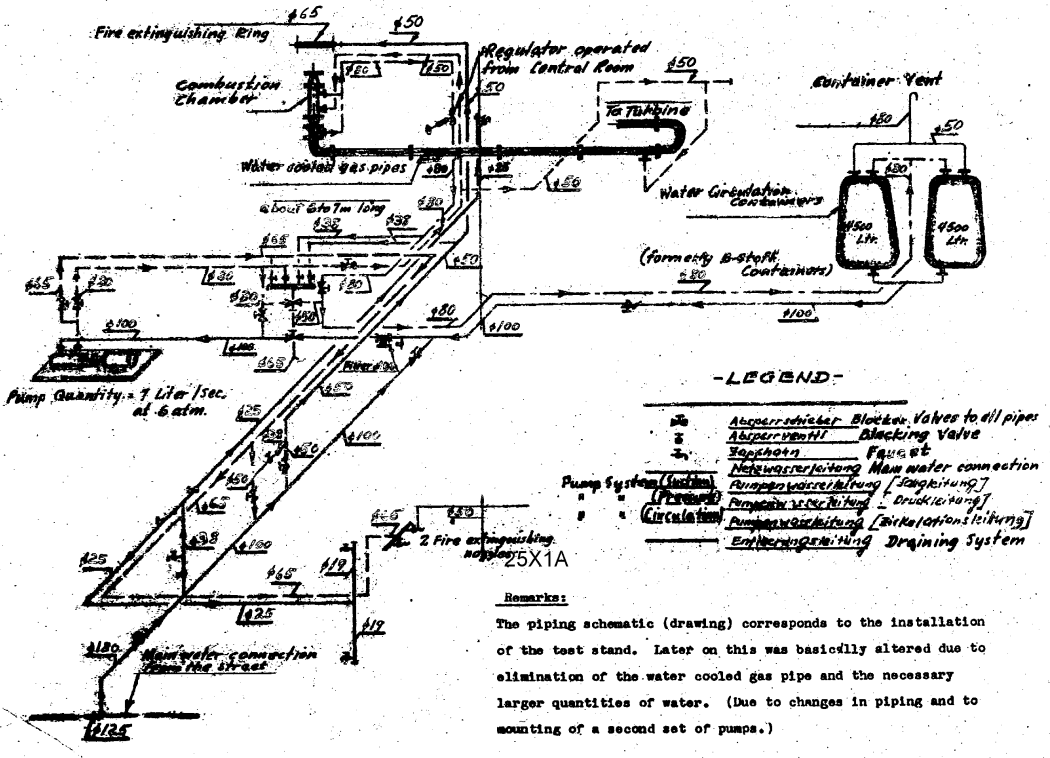


Section



View from above Combustion Chamber

Sketch of the COMBUSTION Chamber at the TEST Stand
FIRST OBJECT - GORODOMLYA ISLAND - USSR



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Remarks:

The piping schematic (drawing) corresponds to the installation of the test stand. Later on this was basically altered due to elimination of the water cooled gas pipe and the necessary larger quantities of water. (Due to changes in piping and to mounting of a second set of pumps.)